

**NORYL™ Resin NHP8010T3**

(PPE+PS)

Saudi Basic Industries Corporation (SABIC)

**Product Texts**

NORYL NHP8010T3 resin is a non-reinforced blend of polyphenylene ether (PPE) + polystyrene (PS) designed for high heat resistance and ultra-thin-wall FR. This extrusion and injection moldable grade contains non-brominated, non-chlorinated flame retardant and carries UL94 flame rating of V0 at 0.3mm. NORYL NHP8010T3 is based on a unique co-polymer technology and exhibits high impact, high heat resistance, dimensional stability, hydrolytic stability, strong electrical performance, low moisture absorption and low specific gravity. This grade is targeted for electrical vehicle (EV) battery pack insulation sheet/film, bus bar insulation layer and other high voltage electric component. See NHP8000VT3 resin for V0 at 0.25mm and CTI 600V/PLC 0 version.

UL Yellow Card [E207780-104566752](https://www.ul.com/yellow-card/E207780-104566752)

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ASTM Data</b>			
Melt Flow Index, MFI	15.7	g/10min	ASTM D 1238
Temperature	300	°C	-
Load	5	kg	-
Mold Shrinkage, MD	0.0077	mm/mm	ASTM D 955
Mold Shrinkage, TD	0.0076	mm/mm	ASTM D 955

Mechanical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Tensile Modulus	2440	MPa	ISO 527
Yield stress	63	MPa	ISO 527
Yield strain	4.2	%	ISO 527
Stress at break	50	MPa	ISO 527
Strain at break	35.6	%	ISO 527
Flexural modulus, 23°C	2450	MPa	ISO 178
Flexural strength	106	MPa	ISO 178
Izod impact strength, +23°C	N	kJ/m <sup>2</sup>	ISO 180/1U
Izod notched impact strength, +23°C	25	kJ/m <sup>2</sup>	ISO 180/1A
Izod notched impact strength	11	kJ/m <sup>2</sup>	ISO 180/1A
Temperature	-40	°C	-
<b>ASTM Data</b>			
Tensile Modulus	2382	MPa	ASTM D 638
Tensile Strength at Yield	62	MPa	ASTM D 638
Tensile Strength at Break	49	MPa	ASTM D 638
Elongation at Yield	4.2	%	ASTM D 638
Elongation at Break	10.6	%	ASTM D 638
Flexural Modulus	2470	MPa	ASTM D 790
Izod Impact notched, 1/8 in	326	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	103	J/m	ASTM D 256
Temperature	-40	°C	-
Izod Impact unnotched, 1/8 in	2190	J/m	ASTM D 256

Thermal properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Temp. of deflection under load, 1.80 MPa	134	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	149	°C	ISO 75-1/-2
Burning behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.3	mm	-
Yellow Card available	yes	-	-
<b>ASTM Data</b>			
DTUL @ 66 psi	149	°C	ASTM D 648
DTUL @ 264 psi	132	°C	ASTM D 648
Vicat Temperature	163	°C	ASTM D 1525

Electrical properties	Value	Unit	Test Standard
<b>ASTM Data</b>			

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Surface Resistivity	<b>6.6E16</b>	Ohm	ASTM D 257
Volume Resistivity	<b>4.64E16</b>	Ohm*cm	ASTM D 257

Other properties	Value	Unit	Test Standard
Density	<b>1090</b>	kg/m <sup>3</sup>	ISO 1183

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	<b>100 - 120</b>	°C	-
Pre-drying - Time	<b>3 - 5</b>	h	-
Melt temperature	<b>280 - 330</b>	°C	-
Mold temperature	<b>70 - 120</b>	°C	-
Zone 1	<b>280 - 320</b>	°C	-
Zone 2	<b>280 - 320</b>	°C	-
Zone 3	<b>280 - 320</b>	°C	-
Nozzle temperature	<b>250 - 330</b>	°C	-
Screw speed	<b>20 - 100</b>	rpm	-
Back pressure	<b>3 - 8</b>	MPa	-

**Characteristics****Processing**

Injection Molding, Other Extrusion, Thermoforming

**Special Characteristics**

Flame retardant, Halogen-free, High impact or impact modified, Heat stabilized or stable to heat

**Features**

Amorphous, Low Warpage

**Chemical Resistance**

Hydrolytically Stable

**Applications**

Automotive, Electrical and Electronical

**Regional Availability**

North America, Europe, Asia Pacific, South and Central America